

## ABSTRACT OF THE DISCLOSURE

Methods of allocating, writing, reading, de-allocating, re-allocating, and reclaiming space within a nonvolatile memory having a bifurcated storage architecture are described. A method of reliably re-allocating a first object includes the step of storing a location of a first object in a first data structure. A location of the first data structure is stored in a second data structure. A duplicate of the first object is formed by initiating a copy of the first object. An erase of the first object is initiated. A write of a second object to the location of the first object is then initiated. The duplicate object is invalidated. The status of copying, erasing, and writing is tracked. The copy status, erase status, write status, and a restoration status are used to determine a recovery state upon initialization of the nonvolatile memory. The duplicate object is invalidated, if the writing status indicates that the writing of the second object has been completed. The first object is erased, if a restoration status indicates copying of the duplicate object was initiated but not completed. The erasing of the first object is completed, if the erase status indicates that erasure of the first object is not completed. A restoration of the duplicate object to the location of the first object is initiated, if the copying status indicates that copying of the first object was completed. The copying of the duplicate object is tracked as a restoration status.